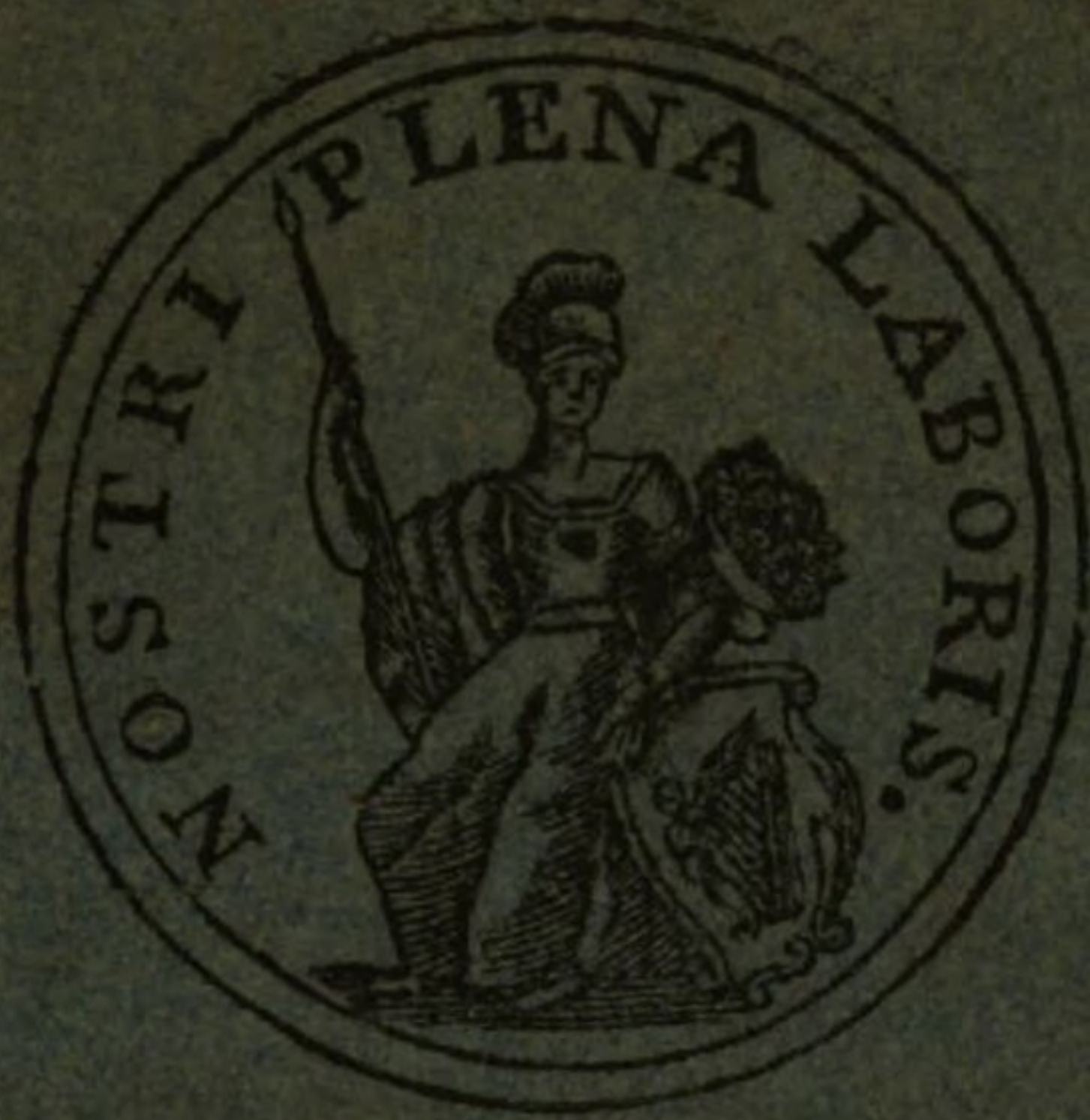


Queen.

1174^m



TREATISES,

ADDRESSED

To the Right Honourable and Honourable

The Dublin Society,

RECOMMENDING

THE CULTURE OF

POTATOES

FROM THE

SHOOTS.

LETTERS

TO THE

RIGHT HONOURABLE AND HONOURABLE

THE

R
DUBLIN SOCIETY,

ON THE CULTURE OF

Potatoes from the Shoots.

Bayerische
Staatsbibliothek
München

LETTERS

To the Right Honourable and Honourable

The Dublin Society

LETTERS

POETRY TO THE

RIGHT HONOURABLE AND HONOURABLE

THE
DUBLIN SOCIETY

ON THE CULTURE OF

BY THE REV. WILLIAM MURPHY, F.R.S.

Extracts from the Reports.

Bayreuth
Gesellschaft
München

LETTERS

To the Right Honourable and Honourable

The Dublin Society,

ON THE CULTURE OF THE

POTATOES

FROM THE

SHOOTS.

BY THE REV. WILLIAM MAUNSELL, L.L.D.

*“ Much Food is in the Tillage of the Poor;
“ but there is, that is destroyed for want of Judgment.”*

PROVERBS, CHAP. 13, VERSE 23.

DUBLIN:

PRINTED BY WILLIAM SLEATER, 28, DAME-STREET,
PRINTER TO THE DUBLIN SOCIETY.



M.DCC.XCIV.

LETTERS

To the Right Honourable and Honourable

The Dublin Society,

ON THE CULTURE OF THE

POTATOES

FROM THE

SHOOT.

BY THE REV. WILLIAM MANNSELL, LL.D.

PROVERBS, CHAP. 10, Verse 27.
"but there is, that is righteously for man's judgment."
"Much Food is in the Tillage of the Poor."

DUBLIN.

PRINTED BY WILLIAM MANNSELL, 24, NASSAU-STREET,
PRINTED TO THE DUBLIN SOCIETY.

MDCCLXIV.

[6]

*At a Meeting of the COMMON COUNCIL
of the City of Limerick, held the 10th
Day of February, 1794, in the Common
Council Chamber of said City.*

*RICHARD HARTE, Esq. having shewn to the
Mayor and Common Council the produce of one single
Potatoe-shoot, agreeable to the Rev. Dr. Maunsell's
new discovered mode of culture, containing sixty-eight
potatoes, with the stock from said shoot seven feet in
length; Ben. Friend, Esq. late Mayor, with several
other Gentlemen, having seen the surprising produce
from the shoots in December, 1792, in the Rev. Dr.
Maunsell's potatoe garden; Henry D'Esterre, Esq.
our present Mayor, having been witness to the produce
on the second of December last, from the shoots in Dr.
Maunsell's garden.*

*Resolved, That the Thanks of this Council be given
to the Reverend Doctor Maunsell for his very ingenious
and useful discovery, for his indefatigable pains in re-
ducing the culture from the shoots to a perfect system,
and for his liberal communication of the same to the
public.*

Resolved,

Resolved, That we think Dr. Maunsell deserves every compliment the public can pay him.

Resolved, That a copy of those Resolutions be sealed with the City Seal, and that our Town Clerk do wait on Dr. Maunsell with the same.

Signed by order,

EDWARD PARKER, Town Clerk.

The Rev. Dr. MAUNSELL having been waited on by Edward Parker, Esquire, the Town Clerk, with the above Resolutions, he was pleased to make the following Reply.

SIR,

I AM highly flattered by the very honourable approbation of the Mayor and Corporation of Limerick, the third commercial city in this kingdom, for my discovery, THE CULTURE OF POTATOES FROM THE SHOOTS, which through unremitting zeal and attention these two years past, I have reduced to as perfect a system of agriculture, as any other branch in that science.

My

My liberal communication of it to the public, (as they are pleased to term it,) was entirely disinterested, actuated alone by the high gratification, of rendering as an individual of society, every service to the community in which I live, and to mankind in general.

The abundance and great savings this mode of culture will produce to two millions of people in this kingdom, who make potatoes their principal food, will in time have the happiest effects, as it will always keep up an ample supply of provisions for the lower orders of the people, and be the means of keeping them quiet; while the countryman and merchant will meet with no interruption, in carrying two great objects of the legislature into execution, the IMPROVEMENT of AGRICULTURE, and the EXPORTATION of GRAIN.

You will please to present the Mayor and Common Council with my most grateful thanks, for this very honourable mark of their approbation.

W. Maunfell.

TO EDWARD PARKER, Esq.

Town Clerk.

EXTRACTS FROM THE PROCEEDINGS OF THE

DUBLIN SOCIETY.

THURSDAY—APRIL 11th, 1793.

AN Essay on the Culture of Potatoes from the Shoots, by which it appears there would be a considerable saving in seed and labour to the Peasantry of Ireland; addressed to the Society by the Rev. Dr. Maunsell of Limerick, having been laid before them by the Right Hon. David Latouche.

Resolved, That the said essay be referred to the Committee of Agriculture for their consideration, and that they do report their opinion thereupon to the Society.

THURSDAY—FEBRUARY 20, 1794.

Colonel Hayes reported from the Committee of Agriculture, to whom on the 11th day of April last was referred the consideration of an essay on the Culture of Potatoes from the Shoots, addressed to the Society by the Rev. Dr. Maunsell of Limerick; that the said Committee had perused the said Essay, together with another Essay on the same subject, written by Doctor Maunsell; and also a Treatise on the Culture of Potatoes written by Thomas King, Esq. of Kingston, County of Wicklow; and were of opinion that the said several Treatises had great merit, and that the publication of the same would be of infinite service to the Peasantry of Ireland, should they follow the mode of culture recommended in the said treatises.

Ordered, That one thousand copies of the said treatises be printed for the use of the Society.

Resolved unanimously, That the Thanks of this Society be presented to the Rev. Dr. Maunsell and Thomas King, Esq. for their excellent Treatises on the Culture of Potatoes communicated to the Society.

L E T T E R S
TO THE
D U B L I N S O C I E T Y,
ON THE CULTURE OF
Potatoes from the Shoots.

LIMERICK, 1st FEBRUARY, 1793.

My Lords and Gentlemen,

AS every improvement in Agriculture must be an acquisition to the kingdom, and as the Dublin Society have encouraged and rewarded experiments of every kind, when they have been of publick utility; I have this year attempted an experiment on the culture of Potatoes, which has answered my warmest expectation, and under the patronage and encouragement of the Dublin Society, must be a very great annual saving to the Poor of this Kingdom, provided the culture of them in the manner I have pursued becomes general.

B

It

It is well known, that potatoes are the food of at least two million of people in this kingdom; and if that two million of people can reap the benefit of a second crop, without the expence of a second sowing of potatoes, what discovery has ever been made in this kingdom of equal utility? and yet from the underneath letters, affidavits and certificates, it will be found practicable, provided the peasantry (who are always attached to old systems of Agriculture, and who cannot by the most obvious experiments be beaten out of their modes, because *their fathers tilled in such a manner*) be encouraged by premiums, to undertake the culture of them in the manner I have laid down.

About fifty years ago, we had but few kinds of potatoes in this kingdom, and it is more than probable, that those few kinds only would have still continued, was it not for the ingenuity of some Gentlemen, who tried experiments on the seed of the apple of the potatoe, from whence arose that great variety of potatoes that we now have; but this experiments

riment though highly useful, is yet slow in its operation because, the young stocks must be transplanted, and you will not reap the full benefit of the experiment in less than two years; and even within that period, it will be rather local, for it will take some years before the good kind can be selected, and distributed through the kingdom, so as that the public may benefit by it.

But the experiment I have made this year is simple and efficacious; it is (if I may use the expression) giving existence and value to what before had none; it is letting the poor man eat his seed potatoes, and making use of that, which for ages past had been thrown away as useless, for raising potatoes the ensuing year; it is in short, adding so much to the common stock of provisions for the poor, which should be an object with every good citizen.

In the month of April, when I began to sow my potatoes, I observed in the heap that I had for seed, the potatoes fastened to each other by a great number of shoots, not thicker than straws, issuing from the different

eyes; those shoots appearing so early, I considered as the strength of the potatoe, or rather, its first efforts to vegetation; and it appeared to me from the state the potatoes were in, that they must be greatly weakened by those several shoots proceeding from them.

While my potatoes were sowing in the usual manner, it occurred to me, on seeing potatoes growing where they had been stored in heaps in the field, and no appearance of any seed potatoes left, nothing but the bare shoots, without any kind of culture; and on my perceiving the runners from the Alpin, or prolific strawberry plants, taking root at every joint, and each joint producing blossoms and ripe fruit the same season, it confirmed me in opinion, that the shoots from the potatoes, if properly attended to, might produce potatoes; but a doubt still remained on my mind, and that was, whether the shoot when deprived of its parent potatoe, would ever fructify or produce a potatoe; I resolved however to try the experiment, and took up a few shoots of different kinds, that my servant had thrown away, cut them into pieces about six inches in length, choosing those that had the most knots

knots and fibres, observing to plant them as they grew, with that part next the potatoe downwards.

I made the servant make two drills of twenty-eight feet in length, which I had prepared for parsnips, and planted each shoot about six inches asunder, covered them with earth about an inch, each drill two feet asunder, and gave directions, that if they grew, to earth them up at least a foot high, leaving about three inches of its growth above ground, till towards the first of August; these shoots thus planted, began to vegetate and get into leaf, before any of the potatoes I had sown at the same time in the usual manner, owing as I supposed, to the strength of the shoot, which weakened the potatoe from which it issued: when I found the shoots in leaf, and the experiment likely to succeed agreeable to my wish, I lamented, that I had not tried it in the month of March, being satisfied from its quick growth, that the strength of the potatoe lay in the shoot.

While this process was depending, I mentioned to several Gentlemen and Farmers the

the experiment I had made; they laughed at the idea, and could not be brought to believe, that a single potatoe would ever grow from the shoots; but I was determined the experiment should have a fair trial, and would not commit the management of the process to the servant alone, but paid some little attention to it myself, lest those Gentlemen who laughed at my idea, might turn their laughter against the ideal experimentalist.

No doubt, the giving existence and value to what before had none, or at least, the increasing the general stock of food for the poor, at so easy an expense, by turning to profit, and converting to a public good, what heretofore had been thrown away as useless, is an object worthy the attention of the Dublin Society, from whose fostering hand, arts manufactures and agriculture have received such improvements in this kingdom.

The usual mode of preparing potatoes for sowing, is by cutting the potatoe into as many pieces as it has eyes; these when cut are called Sets, in Irish Scullains, and are let to lie for several days, until a kind of crust appears on the part that is cut, for the
tiller

tiller imagines, that if the sets or scullians were sown so soon as cut, the snails and worms would much injure them, and the crop would be greatly lessened. But the failure, in my opinion, does not proceed from its being newly sown after it has been cut, but from the state it is in when sown; for it is obvious to every person conversant in the sowing of potatoes, that the set or scullian long before it is cut from the potatoe, nay even the potatoe itself, appears haggard and shrivelled up, owing to the different shoots proceeding from it; and even these when sown, do not all grow, one-third at least perishes, because the strength has been taken from them by the different shoots; and if there be any small remains of life in the scullian, it perishes on the very threshold of vegetation, because, when come to its birth, it has not strength to bring forth.

By observing the mode I have laid down for the culture of potatoes from the shoots, the cottier, who perhaps has an acre of ground to sow under potatoes, (I mean for a second crop) and the potatoes stored in heaps in the garden, and who for several weeks in spring had remained in a torpid idle state,

when

when he might be employed to advantage in making drills in his potatoe garden, will have full leifure to begin his potatoe tillage, provided he be careful in digging out the feed, when the demand for labourers is not great; he can open one or two of his heaps, collect all these shoots that heretofore have been thrown away as uselefs, fell his potatoes, pay his rent, and at his leifure plant five or fix drills with the shoots, in the month of March, provided they be sufficiently strong; in the month of April he can plant as many more, and so on, till he plants his entire acre.

The labour attending this mode of culture is but trifling; for he has nothing more to do, than to make a drill of about five or six inches deep, and about two inches wide; his wife or children may follow him with a barrow of manure, throwing a small quantity into the drill in which the shoots are to be planted, (as you would any other plant,) covering it with about two inches of earth; by this means, his potatoes will ripen in succession, and he will find his garden tilled almost imperceptibly, without hiring a single labourer to assist him; and when the stocks appear
above

above ground, he will have about twelve inches of ground at each side of the drill to earth them up, at least eighteen inches high, for the higher you earth them up, the greater will be the produce; for the potatoes from the shoots, if properly attended to, will not spread in the ground, but ascend to the surface, as you may see them when dug out, growing to the stock, as onions tied in a trace.

But this kind of culture will not answer for a first crop, the surface is too stubborn, and the ground not sufficiently meliorated, for the looser and finer the earth, the greater will be the produce, and the less expence attending it; but it will answer exceedingly well for a second, third or fourth crop, provided what I have before mentioned be well attended to, *viz.* the clearing the ground carefully from all feed potatoes, for by changing the drills, and putting a very small quantity of manure into them every year, you renew, or recreate your ground (if I may use the expression) and you may keep your garden under potatoe-tillage for several years; and when the garden is to be let out for wheat, or any

other kind of grain, those different summer-fallowings, assisted by a small quantity of manure every year, will be the best preparation for the grain, besides an amazing improvement to the ground.

Nature points out the time for sowing potatoes, and that is, when they first begin to vegetate, and put forth their shoots. The countryman is so sensible of this, that he opens his heaps twice or thrice in spring, in order to take off those shoots which hurt his potatoes, and in order to keep them as long as he can plump and fit for sale; that is the time he should begin his culture on the shoots, and though they be but two or three inches in length, he should have his drills ready on the first opening of his heaps, to receive them; these will give him an early crop, and from their strength, will be able to stand against a slight frost; for from the experiment I have made, I find the potatoe stocks from the shoots more luxuriant, and much thicker than those that grew in the beds, I had sown with potatoes at the same time.

The

The Palatine mode of sowing in drills is by much the cheapest manner of tillage, because less manure is necessary, and the ground always in heart; besides the drills being made by the plow, and the potatoes covered by the plow, and turned out by the plow when ripe, are not injured, they come out of the ground entire, without any cut or wound, which is not the case in spade digging, where every fifth or sixth potatoe receives some damage; yet notwithstanding this easy and profitable mode of culture, his neighbouring cottiers can scarcely be prevailed upon to adopt it, because they have always sowed in beds, tho' attended with greater expence and labour; nor is it likely that they will at first adopt the experiment I have made, for they are naturally timid, and will not easily be brought to give credit to the produce of my experiment, though it comes to them so well authenticated by affidavits, and the certificates of so many respectable personages; they think it is putting too much at hazard; and indeed they are not to blame, for so novel a mode of producing potatoes will not easily gain credence even among the better sort of farmers.

The culture of potatoes falling to the lot of the lowest class of the people, they never form a second idea how their culture may be improved; this may easily be supposed from the ignorance in which they have been bred; they are conversant only in sensible objects, such as strike the external eye; the intellectual eye continues in darkness, nor can it be opened but with great difficulty; they continue to pursue the beaten track, without diverging from it, and because they see that such a process on potatoes produces such a crop, they content themselves with it, and if they should be so fortunate as to have a sufficiency of manure for their gardens, they sleep in ease, and think that the only improvement potatoes are capable of receiving. Nor do even gentlemen, or the better sort of farmers, take this culture into consideration, they content themselves with laying out their fruit and pleasure gardens to advantage, and provided they can furnish their tables with variety of fruit and vegetables, they never consider the tables of the poor cottiers, but leave to them the drudgery of potatoe tillage, for their sustenance and support.

If

If gentlemen would next spring preserve those shoots, that would have been thrown away as useless, (for even the pigs do not eat them) and begin the culture in the manner I have laid down; and call upon their lower tenantry, who live mostly on potatoes, to see the experiment made, and its process, and call upon them again when the potatoes are ripe, to witness the produce: self-interest will make them adopt it; they know very well the expence of buying feed potatoes, and the extravagant price they are often bought at; they know very well, that if any succedaneum can be adduced to supply the want of feed potatoes, it will be a saving of so much; that the money heretofore laid out in buying feed potatoes, will help to pay the landlord's rent: These considerations (when satisfied of the success of the experiment) will by degrees lead them into it; and in a few years this culture will become general. But I would not recommend in the first instance, that gentlemen should try the experiment in potatoe ground; a fair trial cannot be made where any of the feed potatoes may remain, for notwithstanding the greatest care in digging them out, many will remain in ground, and

and of course mix with the shoots, so that the experiment cannot be ascertained with any degree of precision.

Before the experiment had received its final proof in presence of Ben. Friend, Esq; our Chief Magistrate, and some other gentlemen, several farmers on hearing that I had made the experiment on the shoots, were induced by curiosity to go into my garden to see them; on seeing the stalks so amazingly thick, they expressed their astonishment, and said, that if the potatoes answered to the appearance, that there never was a more useful or profitable discovery made in this or any other kingdom for encreasing the general stock of provisions for the poor; but such was their narrow policy, that they condemned the principle in general, and said, that “if every
 “tiller of potatoes would adopt the experi-
 “ment, there would be every year such a
 “redundancy, that potatoes would bear no
 “price; that the countryman would not
 “know how to dispose of them, or be able
 “to pay the rent of the ground, and that
 “they would answer very well for a private
 “gentleman,

“ gentleman, who wanted to raise early potatoes.” These objections were so futile and insignificant, that they carried with them a conviction of the utility of the experiment, and proved to a demonstration the advantages resulting to the poor, from the practice of it.

The great object of the Legislature in this kingdom, has been the encrease of agriculture: Lord Viscount Pery first began it several years ago, by introducing an Act into the House of Commons for the encouragement of it in the interior parts of the kingdom, and a bounty was given by the Act to the land-carriage of grain and flour to the city of Dublin; this has had the best and happiest effects, as it enabled the remote tiller to bring his grain and flour to market at as cheap a rate, as the farmer near the metropolis; and the Right Hon. John Foster the present Speaker, has completed the business in the most effectual manner, by introducing an Act giving a bounty on the exportation of grain, &c. This has greatly enriched the farmers on the sea coasts and navigable rivers, and enables them to improve those barren tracts of mountain, which

which for want of the hand of the diligent to cultivate and improve, would have continued in their original barrenness : These we see daily improving ; the country begins now to wear a more pleasing face ; the mountains are shaking off their dark and dingey hue ; “ and the corn on the hills seem to rejoice “ and sing.” These the effects of the two Acts of Parliament, and these will hand down the names of the two Right Honourable promoters of them to posterity with the greatest honour, as through them, this kingdom is daily encreasing in industry and opulence.

But to return to the objection made by those narrow-minded farmers : Do they not know that potatoe tillage is in general the first preparation for corn tillage ? Can they be strangers to the poor man’s stock, pigs ? and that these in the general are what he has to depend upon for his rent ? And that while Great Britain has a fleet to victual, or islands to send provisions to, that pork and bacon will always bear a price ? If then the poor tillers should have a redundancy of potatoes, let them encrease their stock, and they will find themselves daily encreasing in opulence,
and

and will shortly be able to get rid of that laziness, filthiness, and nastiness, which have been too long the reproach of this kingdom.

I am,

My Lords and Gentlemen,

With the greatest respect,

Your very obedient servant,

W. Maunfell.

and will thereby be able to give a full and
correct account of the same, and which will be
of great service to the Kingdom.

I am, Sir, Your Obedient Servant,
John Smith

Received of the Honble the Lords of the
Council the sum of Ten pounds for the
rent of the house in which the
Honble the Lords of the Council
do sit, for the year ending at
Michaelmas next, viz. the 29th
of September 1688.

[88]

Copies of Letters, Certificates, and
Affidavits, relative to the Produce
of Potatoes from the Shoots, as ex-
perienced by the following Gentle-
men, the last Year.

Ballyhouragan, Nov. 3, 1792.

DEAR SIR,

“ WHEN you did me the pleasure of
“ calling on me in your way to Dean Graves’s,
“ you mentioned to me, an experiment that
“ you had made on the shoots of potatoes,
“ and requested, I might plant some of them,
“ in order to try the experiment. I really
“ laughed at your thought, and did not think
“ I should have a single potatoe; however, to
“ gratify your wish, I made my labourer to
“ plant some of the shoots, but little at-
“ tention was paid to them; this happened in
“ the latter end of last May, but to my great
“ surprize, when I dug them this day, found
“ them

“ them very large, and would have been
 “ more so, had they been planted earlier, and
 “ better attended to; I have taken the liberty
 “ of acquainting you with the success of the
 “ experiment, as I know your great anxiety
 “ about it; I shall try the experiment next
 “ year on a larger scale. I weighed one of
 “ the potatoes, and it weighed near three
 “ quarters of a pound, and the others were
 “ almost as large. I tried my other potatoes
 “ that I had in beds, and dug this day the
 “ same number of stalks that I had planted,
 “ and that in the presence of Lancelott
 “ O’Brien, Esq. and found your experiment
 “ more productive than those in the beds.
 “ Mr. O’Brien underneath certifies the above.
 “ I am, Dr. Sir, your most obedient and
 “ very humble servant,”

“ WILLIAM RICHARD HILLIARD.”

“ I was present when Mr. Hilliard dug the
 “ potatoes planted from the shoots, agree-
 “ able to Doctor Maunfell’s culture of pota-
 “ toes, and do find them answer agreeable
 “ to

“ to what Mr. Hilliard has fet forth in the
 “ foregoing letter. Witness my hand this
 “ 3d day of November, 1792.

“ LANCELOTT O'BRIEN.”

Rev Doctor Maunfell,
 Square, Limerick.

“ *Dromin, Nov. 20, 1792.*

“ DR. DOCTOR,

“ Agreeable to your request, I have plant-
 “ ed some potatoe shoots in the manner you
 “ directed, and on my trying them, found
 “ them as good, if not better, than those
 “ sown in the usual way ; I shall, from this
 “ time forward, continue your plan, as I am
 “ convinced it is a better way, and a greater
 “ saving of potatoes. I hope to have one
 “ acre sown in this manner, by the
 “ time you come to the country ; and am,
 “ Dr. Doctor, with best regards to all friends
 “ in the Square,”

“ Your much obliged,

“ and obedient humble servant,

“ RICHARD RAYMOND.”

The Rev. Doctor Maunfell,
 Square, Limerick.

MY

" Sackville, Nov. 28, 1792.

" MY DR. FRIEND,

" I inclose you the affidavit of my garde-
 " ner relative to the experiment we made on
 " your new method of propagating potatoes,
 " to which I resolve to give a more ample
 " trial next year; and from what I have seen
 " already, do really think the mode may be
 " rendered very effectual, and prove a great
 " saving to the poor; you will do well to
 " make it publick: I form good hopes, that
 " the practice of next year will establish
 " your theory.

" I am, my Dr. Friend,

" Your obliged, faithful

" and affectionate,

" THOMAS GRAVES."

County of Kerry, }
 to wit.

" I THOMAS FITZGE-
 " RALD, do swear, that
 " on or about the 22d day of May last, I did,
 " pursuant to the directions of the Rev.
 " Thomas Graves, Dean of Ardfert of Sack-
 " ville, in said county, with whom I live in
 " station

“ station of Gardener, plant a few of the
 “ shoots which issued from potatoes, then
 “ lying heaped up together in an house, and
 “ did set the same in a small drill, in one
 “ of the squares of the garden of the said
 “ Dean Graves, at Sackville aforesaid, who
 “ told me that he resolved to try an experi-
 “ ment, suggested to him by the Rev. Doctor
 “ Maunfell, of Limerick; that I covered said
 “ shoots lightly with earth, and afterwards
 “ trenched them up once only, and that no
 “ potatoes or sets of potatoes were sown in
 “ said ground, save only the shoots afore-
 “ said; and that when in the month of
 “ October last, I dug said drills in which I
 “ had planted the shoots aforesaid, I did to
 “ my great surprise, find as fine potatoes, if
 “ not finer and larger, produced from said
 “ shoots, than any I have seen this year
 “ growing from potatoes sown in the usual
 “ manner. Sworn before me this 28th day
 “ of November, 1792.

“ THOMAS GRAVES.”

THOMAS FITZGERALD.

County

County of the City of } JAMES CARMODY
 Limerick, to wit. } and Denis Ryan,
 both of the South Liberties of the city of
 Limerick, yeomen, came this day before me
 and made oath, that on or about the 15th day
 of April last, when our Master the Rev. Doctor
 Maunfell was sowing his potatoes, he our
 said Master brought in his hand a parcel of
 the shoots of potatoes, which heretofore had
 been thrown away as useless, and of no value,
 and desired we might make two drills in a
 plot, that we were preparing for parsnips;
 and then our said Master cut said potatoe
 shoots into lengths of about six inches, and
 made us plant them in said drills, about six
 inches asunder, and which we covered with
 earth about one inch. Deponents further
 swear, that agreeable to our said Master's
 directions we earthed, or landed the same
 about a foot high, as they grew up, leaving
 always about two inches of the stocks above
 ground until the first of August. Deponents
 further swear, that no potatoes were sown for
 several years in said plot, save only the pota-
 toe shoots, which they at that time had plant-
 ed. Deponents further swear, that on the
 27th day of last December, they dug said
 potatoes

potatoes in the prefence of the Mayor and feveral other gentlemen, and found them amazingly large and thick in the ground.— Deponents further fwear, that they planted about fixty of the fhoots in two drills of twenty-eight feet in length, and though three drills are deemed equal to a bed of potatoes, in breadth, that yet the two drills produced double the weight of what was fown in a bed of the fame length, and at the fame time, and that the potatoes from the fhoots were much larger than thofe in the beds.— Deponents further fwear, that had our Mafter dug faid drills two months earlier, that there would have been a much greater produce, as at leaft two ftone rotted in the ground, and were confumed by fnails and worms, owing to the wetnefs of the feafon. Sworn before me this 11th day of March, 1793.

BEN. FRENDE, Mayor.

DENIS RYAN.

his

JAMES ✕ CARMODY.

mark.

E

The

The Rev. Doctor Maunfell having made an experiment on the culture of potatoes from the shoots, requested our attendance to see the proof of his experiment; we accordingly went on December 27th to his garden, to see them dug. To our very great surprise, on digging two drills of twenty-eight feet each, we found them the largest and finest we ever saw, and of different kinds; we made the labourer dig the same length of a bed of potatoes sown in the usual manner, and we weighed the produce of each, and found Dr. Maunfell's mode of culture from the shoots to weigh twice as much, as those contained in the bed, though three drills are supposed to contain the ground in a bed; and we do verily believe, that Doctor Maunfell's culture of potatoes is the greatest discovery that has been in agriculture this century past, and that he has reduced the culture from the shoots to a perfect and certain system, and that it will (from what appeared to us) be a saving to the nation of 750,000l. and 250,000 acres annually, as appears by the following calculation.

BEN. FRENDE, Mayor.

JOHN TUTHIL.

RICHARD HARTE.

PHIL. RUSSELL.

*Data for calculating the Growth and Consump-
tion of Potatoes in this Kingdom.*

SIR WILLIAM PETTY, when he wrote his political Anatomy, averaged $5\frac{1}{2}$ souls to each house throughout this kingdom; other calculators estimated them at $6\frac{1}{2}$. But Mr. Bushe in his very ingenious communication to the Royal Irish Academy in 1790, estimated the number of souls in this kingdom at four millions and forty thousand, averaging the number of houses not regularly returned by the hearth-money collectors.

Number of houses returned	-	650,000
To which he adds	-	30,000
Total by Mr. Bushe,	-	680,000

But the great body of the people, according to his hypothesis, occupying 500,000 houses of a single hearth each, and potatoes being their constant food; fifteen barrels for consumption, waste, &c. to each house or family per annum, will be found moderate.

The proportion between the seed and produce is, agreeable to the general opinion of the farmers in this country, one to 6, that is, five barrels seed till an acre of land, which produces thirty barrels.

The proportion between the areas of drills and beds producing an equal quantity of potatoes is, agreeable to the experiment I have made, as one to three; for two drills from shoots produced twice as much as one bed of three drills breadth, or six drills: Hence if two drills from shoots produce equal to six drills from scullianes, one drill from shoots must produce equal to three drills from feed, whence a saving of two-thirds land for the other purposes of agriculture.

The above are the only Data I am possessed of, which if not approved of, let any other reasonable data and ratio of seed to produce and areas be assumed, and the savings and advantage resulting will prove this mode of growing potatoes an object highly worthy national attention.

ING per Year,
to the foregoing Data.

	Barrels.	Acres.	Rate	£.
umption for each is -	7,500,000			
- - - - -	3,750,000			
- - - - -	11,250,000			
by this mode is saved	1,875,000			
- - - - -	9,375,000			
es per year - - - -	- - -	375,000		
nfumption - - - -	- - -	312,500		
of feed potatoes - -	- - -	62,500		
75,000 is also saved -	- - -	250,000		
- - - - -	- - -	312,500		
- - - - -	11,250,000			
- - - - -	9,375,000			
per barrel - - - -	1,875,000	- - -	8s.	750,000l.
- - - - -	- - -	375,000		
y quantity - - - -	- - -	125,000		
agriculture - - - -	- - -	250,000		

acres plantation measure.
o acres by the drill culture.

Secondly, By raising seed, the raising is
First Inference, By raising no potatoes

From hence it follows, that the difference in

One-third of said 255,000 acres from those

The land yearly laid out for raising the seed

A raising equal to the seed annually, which

But it is be deemed more prudent to keep

potatoes from the seed

The ratio of seed and produce as per day of

By having no need to raise potatoes for seed

Produce of one acre is thirty barrels, hence

Ratio of produce raised for one acre hence

One half contained by the other orders of

Five hundred thousand in one hundred

By raising

CAI

SECOND LETTER

TO THE

RIGHT HONOURABLE AND HONOURABLE

THE

DUBLIN SOCIETY,

ON THE CULTURE OF

Potatoes from the Shoots,

BY THE REV. WILLIAM MAUNSELL, L.L.D.

Extracts from the Reports,

BY THE REV. WILLIAM MANNING, LL.D.

DUBLIN SOCIETY,

ON THE CULTURE OF

THE

RIGHT HONOURABLE AND HONOURABLE

TO HIS

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DUBLIN SOCIETY,

ON THE CULTURE OF

Potatoes from the Shoots.

My Lords and Gentlemen,

IMPRESSED with the highest respect for the Dublin Society, I presume once more to address you on the culture of potatoes from the shoots, as the experience of this year's culture, has furnished me with a few observations, that had not occurred before.

It is well known to such persons as have paid any attention to the culture of potatoes in the common mode of tilling, that they are apt to degenerate; this I have experienced in some potatoes of a superior quality sent me as a present. I paid every attention to the
sowing,

sowing, but when they were fit to dig, I found them vastly inferior to those I had eat with the gentleman, who furnished me with the seed.

This degeneration, (if I may use the expression,) did not proceed from a difference in soil or tillage, both being equally good, and equally attended to, but from the weakness of the potatoes, their strength having been exhausted by successive shoots, before I had received them.

Few potatoes preserve their originality, because they exhaust themselves before they are sown. To preserve them in their best state, they should be sown so soon as they begin to vegetate; if this be not attended to, the potatoe tillage will dwindle, and instead of large potatoes, and a good crop, which the countryman flatters himself, that rich manure and good tillage must produce, he will find his potatoes small, and oftentimes scarce worth digging. This kind of tillage we may daily see with the poor cottiers; they have given up their time to their landlords, whose tillage must first be attended to, leaving their own potatoes

potatoes in heaps in the field, till they have spent themselves.

The apple potatoe is the only kind in general, that preserves its originality, because its shoots are not so forward as the others, and are fit for sowing, when all other kinds are in ground, and the poor man ready to till: this should be called the poor man's potatoe, because Providence has, in a most kind and benign manner, withheld its shoots, till he has time to begin his tillage.

I shall beg leave to remark, that every kind of potatoe should be sown separately; if they be not, but sown with different kinds, they from contact participate of the quality of each other, and produce but a spurious kind of potatoe; this observation may in some measure be verified in the culture of red cabbage: if you sow it in the same bed with the green, or even transplant it near to the green, the green shall be impregnated with the red, and the originality of both will be hurt; but by sowing each in beds remote from each other, each kind will be preserved in its own distinct species, without any inter-

mixture of colour. I have frequently observed this alteration in potatoes, where a good kind has been sown and in contact with a bad, that the good potatoe has had one half of it impregnated with the bad kind, agreeable to the idea of the * Roman poet relative to the grape:

“ Uvaq; conspectâ livorem ducit ab uvâ.”

which contact, perhaps, on due investigation, may be found to be the source of that degeneracy or alteration, which prevails in other parts of the vegetable system.

In my former letter to the Dublin Society, I endeavoured to shew, that the strength of the potatoe lay in the shoots: we may by analogy, (if I may be so bold,) compare it to the first shot of liquors of every kind. The vin de goutte is but the first running of the grape, before it is pressed, and produces a liquor, much stronger than that, produced by pressing. The first droppings of the apples before they have been pressed, yields the best and strongest kind of cyder; and the first shot from the still, a spirit, superior to that from the feints. I do not know how far this
analogy

* Juvenal.

analogy may apply to the strength of the shoots, I mention it only as a secondary illustration; for the shoots that proceed from the potatoe early in spring, exhaust its strength, and produce a superior kind; whereas if suffered to spend themselves, the original quality is destroyed, as liquors are rendered weak, by being drawn too fine.

I shall here beg leave to observe, that every person adopting this mode of culture, should strictly follow the directions laid down, if he wishes to have a good crop. Good covering is the very life of potatoe tillage; this is an observation founded on experience, though little attended to; and the reason why potatoe tillage is in general so poor, is, because they think a light covering of an inch or two sufficient, without ever considering, that the potatoes ascend to the surface, and the more covering, the greater the produce: this I have experienced in those shoots planted in drills, for the potatoes have ascended on the stock, each covering producing an additional layer, and the whole drill appearing as one continued heap of potatoes. This proves to a demonstration the superior advantage of the

drill culture ; but if the tiller be wedded to his old system of sowing in beds, even in this mode, he can greatly avail himself, by planting the shoots in holes made by the dibble. A tenant of mine by my directions, tried it last spring, and the potatoes were larger, and more in number, than those produced from the sculliane.

The potatoes ascending to the surface on every covering, led me to consider the green stock, and its vegetative quality: I ordered my labourer to make a drill in the month of June, and finding some stocks more luxuriant than others, I cut them in the middle, and planted the tops six inches deep, leaving about four inches above ground, landing them as in the former instances. In the month of December I dug them out; they were as large as the common run, but not equal in number to those produced from the shoots. This is a measure I would not recommend. I watched the stocks from whence the tops were taken, and found they were not injured in the least, and as great produce under them, as if they were not cut; this experiment I mention to shew, that we are still ignorant, and strangers

gers to the value of this most necessary article of life, and that it is still capable of further improvement.

Against this I know it will be objected, that if you injure the tops of the green stocks, that the crop will be greatly hurt. I deny it, except the green stocks be eaten by heavy cattle, which in loose earth must leave deep impressions, which become receptacles for water, very injurious to this root. But I see no reason, if the stocks be too luxuriant, why they may not be cut with equal safety, as bean-stocks are often lopp'd, to prevent their luxuriance, to encrease their pods, and ripen the bean; or as young corn is often eaten down by sheep in spring, to prevent its luxuriance also.

I also tried another experiment, on a number of young straggling potatoe stocks, that appeared in my garden in June; I made the labourer draw them up, stripped them off the sculliane, from whence they drew their existence, transplanted them in drills, and had in December, a very large crop; this I did not look upon as new, I only considered it as
a branch

a branch of my original discovery, and that the transplanting these shoots, thus divested of their parent potatoe, was but the putting them in a more forward state of vegetation, than those planted from the bare shoots.

Being satisfied, that the strength of the potatoe lay in the shoots, I determined this spring to vary my mode of culture, and to plant the shoots horizontally in drills, to save trouble to the tiller; I partly succeeded, and make no doubt, but I should have the experiment compleat, but for the ignorance of my steward, who, in my absence planted them six inches deep, and had not patience to wait their coming up, but dug up the drills, imagining the shoots were dead, because they did not appear above ground, so soon as those that were planted upright in drills. Several gentlemen have tried that mode of culture, and it has answered their expectations, particularly the Rev. Mr. Seymour of Biddymount, who assured me, that he had sown them horizontally, and covered them with the plough, to the astonishment of many spectators, and the produce was found to be great,

great, though he planted them in a careless manner.

In the vegetable creation, providence has been very kind in producing food for man in such a variety of ways; it requires but industry to prepare and bring it forth. Nature has done nothing in vain, and those very shoots, that heretofore escaped notice, and were thrown away as useless, may now, with care and attention, become a great source of wealth to the nation in general, as well as a great saving of labour to the poor cottiers.

I have endeavoured, in the several counties I passed through, to disseminate the mode of raising potatoes from the shoots, and have frequently gone into the gardens, where I saw the shoots thrown away, and perishing with cold on the surface, for want of covering. I have recommended my mode of culture, have made them take up the seemingly dead shoots, have planted them in drills, and in harvest have had the pleasure of seeing them luxuriant and full of potatoes.

Some,

Some, I know, have planted the shoots this last year, from my publication, but paid no attention to them afterwards ; they thought, that providence must work a miracle in their favour, and produce potatoes without any further attention : Providence, has indeed produced the naked shoot, but they, like many unnatural parents, have let it perish for want of care, and sufficient covering.

The general objection now made to this mode of culture, is the want of shoots; this can be no excuse ; for the countryman knows very well, that each sett or sculliane produces a shoot; if proper care be taken of these, and if they be preserved, as you would any other seed, there is not a doubt, but there would be a sufficiency for the purpose of annual consumption. The shoots in spring are not so liable to be hurt, as the seed in harvest. The preservation of the latter, depends upon a warm sun; whereas in the former, the shoots, like asparagus plants, when carefully taken off, and laid in small heaps covered lightly with earth, are in a state of vegetation, till you can with convenience plant them ; this I
look

look upon as a most essential piece of information to convey to the countryman, and leaves him without excuse, and shews how to preserve those shoots intended for the next year's crop, as the autumnal sun informs the gardener, how to preserve his seed, intended for the next year's sowing. This experiment I tried with great success the last season, and it effectually answered my expectations: for not having a sufficiency of shoots, I borrowed from a neighbour, who would have thrown them away as useless, preserving them in the earth for three weeks, and have had as fine a crop of potatoes from these, as ever was dug, without the failure of a single shoot, as you may see by the certificate of the mayor and the other gentlemen who attended the digging, and by the affidavit of the persons who planted and dug them out.

This should induce those that have heaps of potatoes in the house, or in the field, to watch when they first begin to vegetate, and put forth their shoots, and if their ground be not ready to plant them, to have the shoots preserved with care, till their ground be fit to receive them; for instead of the shoots

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perishing

perishing when deprived of their parent stock, they are in a state of vegetation, and advancing in strength.

I shall here beg leave to observe, that it is not the sculliane that has ever produced the potatoe, as will appear if you open the ground soon after it has been sown, that is, when the sculliane is in its vegetative state; for then you will see, that the sculliane produces only the shoot, but that it is the shoot that produces the potatoe; so that it is to the shoot only, that we have been ever indebted for the crop; the sculliane, after having produced the shoots, remaining in a putrifying state, a mere *caput mortuum*, manure only for the spot it covers.

This we may suppose the reason, why a crop of wheat or barley succeeds potatoe tillage, because the ground receives a second manure; first by the manure laid out on the ground for the potatoe tillage, which we may suppose almost exhausted by the crop; and afterwards by the scullianes or seed potatoes; for though the tiller never had an idea, that any manure whatever lay in the seed potatoes, yet,

yet, upon examination, he will find them in a decayed, putrid state, and on his ploughing for wheat, they will be in a kind of jelly, communicating their slimy substance, as manure to the neighbouring earth.

This is no visionary idea, it is founded on fact; I shall appeal to the tiller himself, however heretofore unnoticed by him, for the truth of my assertion; I shall appeal to reason and common sense for the support of it, and I shall appeal to future sowings, to bear testimony of it.

Does not the judicious farmer so soon as his crop is off the ground, instantly plough in the stubble for another crop? Does he eat down any part of the grass, or give his cattle any fresh food from it? No. He considers that there must be a kind of manure in the roots of the corn, grass and herbs, when in a state of putrefaction; and by frequent ploughings and harrowings, he mixes and incorporates the manure from them with the earth, and so fits and prepares his ground for a second and third crop.

Why

Why may we not by parity of reason suppose the same of the sculliane, or seed potatoes; they carry with them their own manure, and by incorporating it in the ground with the plough and harrow, it meliorates, and, if I may use the expression, sweetens the ground, and makes it congenial for wheat or barley tillage. Though this may seem an argument in favour of the old system of culture from the potatoes, yet it is nothing when compared to the advantages derived from planting the shoots in drills, as hereby the ground is in a constant state of fallow.

As the lower class of people are little conversant in calculations, and are perhaps regardless of, or unequal to comprehend the national saving, as annexed to my first letter, the result of my experiment this year simply is, “ That my drills, planted with shoots, “ produced five stones weight of potatoes, for “ every three stones produced in beds sown “ with scullianes, of equal area.” This must certainly meet the level of their understanding, while self interest must prompt them to try the experiment.

Or

Or to convey the savings by this mode of culture in still plainer terms, without going into fractions, or too complicated a calculation, and shew them the savings on an acre, supposing the culture from the shoots properly attended to. In the first instance, the tiller will save half the rent of the acre, (an half-acre under shoots producing equal to an entire acre from scullianes) which at six pounds the acre, is a saving of three pounds. Secondly, he will save half the quantity of manure, which I shall suppose worth two pounds.—Thirdly, he will save the entire feed, five barrels, forty-eight stones each, at two pence halfpenny medium price per stone,—two pounds ten shillings. And fourthly, half the labour of cultivating the acre, which I shall suppose one pound ten shillings, so that by substituting the shoot instead of the sculliane, there will be a saving to the tiller of about nine pounds on an acre. This is but a moderate calculation, when compared with the produce, mentioned in some of the letters received from gentlemen, who tried the experiment last season.

I have

I have read several treatises on agriculture both ancient and modern, and found them all silent with respect to the culture of potatoes from the shoots; they seem to have been as unacquainted with the subject, as the poor labourer who tills, and who is perhaps the least inquisitive after improvements, but obstinately attached to old systems; with him indeed it might be consistent with prudence, not to risk his little competence upon experiments: but had the nature of these shoots been as properly investigated by writers on agriculture several years ago, as corn, or even the leguminous roots, the lower class of people might be at this day in better circumstances, and the country wear a more pleasing face.

M. Duhamel de Monceau, and M. Lullin de Chateau-Vieux have greatly improved the system of agriculture by a series of experiments, which they have conveyed to the public in a very clear and satisfactory manner, independent of theory. Theory is, no doubt, of some use in agriculture, as it leads to experiment; but it is experiment alone, founded on facts, that can add any value to it.

it. And Dr. Home very sensibly observes, that agriculture does not take its rise originally from reason, but from facts and experience. “ But where, says the Doctor, are
 “ the experiments ? when I look round for
 “ such, I can find few or none ; there then
 “ lies the impediment in the way of Agri-
 “ culture. Books in that art are not want-
 “ ing : but the book that we want, is a book
 “ of experiments, founded on facts.”

Hence M. Duhamel and M. Lullin, have great merit in handing to posterity such a variety of experiments, in such a clear and accurate manner. The first of these, Inspector General of the Marine of France, and Fellow of the Royal Society of London ; the latter First Syndic in the city and Republic of Geneva, and who from their different stations, had sufficient employment ; yet did not think the science of agriculture unworthy their attention. These two writers were not culpable for their silence on potatoe tillage, potatoes not being the principal food of their people : but only looked upon, I suppose, as a rarity, and not a mean article of daily consumption.

In

In what I have advanced on this subject, I have not amused the public with fanciful theories; but have proceeded on facts well established; convinced, that in every science, particularly in that most important one agriculture, on which there is such a vast annual expenditure of private property, experiment can be the only sure and certain basis to build upon. This is the sentiment of the great Lord Bacon, who ridiculed systems founded merely on conjecture, without having any other support, and who first shewed, that experiment only, was the true foundation of philosophy.

Tull in his treatise on Agriculture, has paid as little attention to the culture of potatoes, as those who wrote before him. Even Miller, with a tribe of other writers on Agriculture, thought potatoe tillage a mere mechanical operation, fit only for common labourers to attend to; and though Mr. Young, to whom agriculture is indebted in the most eminent degree, has given the several modes of raising potatoes in different parts of England, yet they are but repetitions of those practised by the poor cottiers in this kingdom, for near a century past, I mean the consumption of
the

the potatoe, for raising potatoes for the ensuing year, or devoting one sixth of this year's crop, for raising the next.

Having said so much in this and my former letter on the culture of potatoes from the shoots it may be expected, that I should say something of the vegetative nature of these shoots, that have remained in the womb of nature so long unnoticed. As many useful discoveries have been made by chance, we may partly attribute this also to it: but if we recur to the first cause of all things, that ALMIGHTY BEING, who in the creation of things, has abundantly provided for the necessities and wants of man, we shall gain some little information, relative to the designs of providence, in keeping up a perpetual supply for the food of man, which requires but industry and attention to produce agreeable to his will.

In the third day's creation of things GOD hath said, and let no man dare to question his words: " Let the earth bring forth grass,

" the herb yielding seed, and the fruit tree

H

" yielding

“ yielding fruit after his kind, whose seed is
 “ in itself upon the earth.”

“ And the earth brought forth grafs, the
 “ herb yielding feed, and the fruit tree
 “ yielding fruit after his kind, whose seed is
 “ in itself upon the earth.”

I am not fond of forcing scriptural expressions, or making them subservient to my own ideas; but if it ever be allowable, it is in the present case: for though the potatoe does not bear a sufficiency of seed, so as to supply the immediate necessities of man; yet providence has made abundant provision by the shoots contained within the potatoe, however hitherto disregarded by man. It is true, the potatoe bears an apple, that contains a seed, yet if left to that, for the sustenance of man, he might starve, before that could become a food for millions. The seed of the apple of the potatoe indeed produces variety, but it is the shoot that forwards the growth, and gives an immediate supply to man.

But

But to consider the historical quotation just mentioned a little further. "*By the seed which was in itself after his kind;*" we cannot suppose that providence ever meant that seed within the apple of the potatoe; that seems only designed for the preservation of the kind, and is made no other use of, than in the generation of a new species, and that after a tedious operation of a two years culture; nor could he have meant the sculliane, which is not *within itself* but a component of the very fruit; nor could he have meant the potatoe itself, because it could not be supposed, that so much food intended for the sustenance of man, should be buried in the earth. What then must be meant, "*by the seed of this fruit contained within itself?*" But the shoot, or the very essence of the potatoe, which germinates at the very season, most fit and suitable to its cultivation. This appears so clear to me, that I could not avoid tracing it, as it were, to its highest, and sacred source.

And here I shall beg leave to observe, that the growing potatoes from the sculliane, appears a most clumsy succedaneum for the shoot, and proves to a demonstration the ignorance of man in this culture, and equally absurd, as to attempt raising an apple tree from the cutting of an apple, instead of the kernel: And who then can pretend to say, that the shoot, the only organ of generation, emitted by the sculliane, a wounded and fractional part, can be equal in strength to that, produced by the entire and unimpaired potatoe?

I have endeavoured in these two letters addressed to the Dublin Society, to familiarize the language as much as possible to the capacities of the lower orders of the people, conscious, that nothing can induce them to alter their present mode of culture, but truths conveyed in the plainest and simplest manner, authenticated by a variety of letters from gentlemen, who tried the experiment, and on whose veracity they may depend. Happy am I to find by their different letters, that they have more than answered their expectations,

tions, and hope they may be able to prevail on their tenantry, to adopt a mode of culture, so much their interest to pursue.

When I first began to reflect on the culture of potatoes from the shoots, and how that necessary article of life may be improved for the benefit of mankind, I took up my pen with fear and trembling, conscious that I had old systems to encounter, and the culture of a self-willed bigotted peasantry to reform; besides, I was broaching a new doctrine, and launching into a region of agriculture before unexplored; being flattered by a variety of letters from gentlemen who had tried the experiment, and impelled by the advantages arising to the public from this mode of culture, I once more with great respect address the Dublin Society on the subject; if they think that what I have advanced deserves well of the publick, they will give it that currency, which must result from their patronage: but if it should not seem of such importance, as to meet their favourable attention, it must be left to work its own way,
and

and establish itself, by the gradual conviction
of its superior utility.

I am,

My Lords and Gentlemen,

With the highest respect,

Your very obedient,

Humble servant,

W. Maunsell.

Limerick, Feb.

1, 1794.

Copies

Report of Affidavits, Letters and
Certificates relative to the Produce
of Potatoes from the Phoebe, as
exhibited by the following Gen-
tlemen last Year.

Courtesy of the City of DENNIS RYAN and
Limerick, to wit. John Jackson, of
the South Liberties of Limerick, yeoman,
came before me this day and made oath on
the Holy Evangelists that our I and Lord
the Rev. Doctor Mannell ordered us to
take hills in his potatoe garden towards
the west end of April, in order to plant
the hills of potatoes in; that our
said I and Lord did collect all the phoebe
potatoes that purpose, which we planted in
the garden to be chosen and landed
the potatoes grew up. Said Ryan
is sworn to be a true and honest man on the third
of June, 1845. Henry D. Limerick, Esq.
Justice of the Peace for Limerick, Ben. Friends
and the honorable and Rev.
Dean

Copies of Affidavits, Letters and
Certificates relative to the Produce
of Potatoes from the Shoots, as
experienced by the following Gen-
tlemen last Year.

County of the City of } DENIS RYAN and
Limerick, to wit. } John Jackson, of
the South Liberties of Limerick, yeomen,
came before me this day and made oath on
the Holy Evangelists, that, our Landlord
the Rev. Doctor Maunfell ordered us to
make drills in his potatoe garden towards
the latter end of April, in order to plant
the shoots of potatoes in; that our
said Landlord did collect all the shoots he
could for that purpose, which we planted in
drills agreeable to his directions, and landed
them with earth as they grew up. Said Ryan
and Jackson further depose, that on the third
day of December, Henry D'Esterre, Esq.
Mayor of the city of Limerick, Ben. Frende,
Esq. late Mayor, the Honourable and Rev.
Dean

Dean Crosbie, Col. Richard Harte, Samuel Dickson, Esq. and some others came into the potatoe garden with our said Landlord, and desired us to dig in several places in the drills, and also in a bed sown with potatoes in the usual way, containing the same measurement of ground. Said Ryan and Jackson further depose, that they weighed the produce of each, and found the potatoes from the shoots, to weigh as five to three, and would have weighed considerably more, but the drills were dug in several places, by persons who came out of curiosity to see them. And said Denis Ryan for himself deposeth, that he planted in his potatoe garden last May in two beds, the shoots of the potatoes with the dibble, and they answered exceedingly well, and were larger, and more in number, than those raised from potatoes in beds of equal measurement. Sworn before me this 28th of January, 1794.

H. D'ESTERRE, Mayor.

DENIS RYAN,

his

JOHN JACKSON.

mark.

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In justice to Doctor Maunfell, I cannot avoid expressing my entire approbation of his most useful discovery of raising potatoes from the shoots, and do think it the greatest that has been made in agriculture, since the importation of that most necessary article of life, and if universally adopted by the peasantry of this kingdom, would be the means of supplying them with food at a very small expence.

H. D'ESTERRE, Mayor.

Limerick, January 1, 1794.

DEAR DOCTOR,

Having seen the produce of your potatoes from the shoots in December 1792, and certified it as Mayor of this city, I was induced to try the same mode of propagating them last year, and have the satisfaction of informing you, that they were far superior to those raised from the cuttings. I also attended the
digging

digging of your potatoes last month, in company with the present Mayor, and several other gentlemen, and found the produce amazingly great; I have heard that several gentlemen, who tried the experiment last season, were rewarded beyond their expectations; in short, I should do the greatest injustice to your most excellent discovery, and to the public, were I to withhold my approbation of it.

I am, &c.

BEN. FRENDE.

Rev. Doctor Maunfell,
Square, Limerick.

I was present with the mayor, and other gentlemen, when the Rev. Doctor Maunfell's potatoes from the shoots were dug; the produce was amazingly great, the potatoes the largest, and finest I ever saw, and in number infinitely superior to those planted in his beds from the real potatoe. The discovery is great, and of the utmost consequence to so-

ciety, on account of the amazing saving it will be to the poor of the kingdom.

MAU. CROSBIE, Dean of Limerick.

Coolruss, Jan. 1, 1794.

“ DEAR DOCTOR,

“ Attending the digging of your potatoes from the shoots this year, and the last; the amazing great produce, and the very easy manner could not fail to excite my admiration; which of course induced me, although I could not attend to it, to give directions to have some planted, which my steward did in wet bad ground, which produced more than I could expect; but the inclosed affidavit (which I think it my duty to the public to have made) is a convincing proof, that there is as yet no knowing what produce there might be from your discovery. If any man ever deserved well of the public, it is Doctor Maunfell, who, I may say, from nothing, has produced abundance. I can return you the

the thanks only of an individual, but hope the kingdom will acknowledge it in a more substantial manner. I was present when the potatoes were dug, and wish you may publish the affidavit in what manner you please, and particularly in the treatise you mean shortly to favour the public with, and which I request you may not delay, as several gentlemen of my acquaintance are impatient till it makes its appearance. I hope that most respectable body, the Dublin Society, who are the great promoters of every thing useful in agriculture, may pay you that public compliment, that your exertions to promote so useful a discovery deserve; and hope your plan may be as universally practiced, as the goodness of your heart did intend it should.

“ I have also the pleasure to tell you, that several gentlemen of my acquaintance, and some farmers, have tried your mode of culture with success, particularly Mr. Godsell of Sunville, to much perfection, and am sure all that have done so, and many more, will get into it extensively. Wishing you the compliments

ments of the season, believe me, my dear Doctor,

“ Your sincere humble servant,

“ RICHARD HARTE.”

Rev. Doctor Maunfell,

Square, Limerick.

“ P. S. I have sent the potatoes and stalk to the council chamber, which are a truly pleasing sight.”

County of the City of } WILLIAM PIGOTT,
Limerick, to wit. } gardener to Richard
Harte of Coolruss, Esq; made oath on the Holy
Evangelists, that sometime in the month of
April last, when the steward was planting
some potatoe shoots, agreeable to the Rev.
Doctor Maunfell's successful experiment; he
planted one shoot about five inches in length
in a border in the garden, which he never
after earthed; and that on the fifteenth day
of December, he dug from the produce of
that one shoot, sixty-eight potatoes, of which
from twenty-five to thirty were fit for table,
some of them being remarkably large, and
the early Spanish potatoe; the stalk measured
seven

seven feet, and is satisfied it must have been
a foot longer. Sworn before me this 19th
day of January, 1794.

HENRY D'ESTERRE, Mayor.

his

WILLIAM X PIGOTT.

mark.

Killochrim, Nov. 19, 1793.

“DEAR DOCTOR,

“ Having seen some very fine potatoes at
your house last spring, which you assured me
were produced from the shoots only, I was
induced to try the experiment in a knot in
my garden; I followed your directions strictly,
planted them in drills, and covered them
with earth as they grew up, leaving a small
part of the green stock above ground, till
the first of August; the shoots were planted
the last day of May. I also made another
experiment on the shoots in a potatoe garden,
which I was sowing in lay ground; those in
the garden I paid attention to myself, but
those

those in the field had not the attention paid them that I could wish. I have the pleasure to tell you that both succeeded, but not in an equal degree; the potatoes in the garden as fine and large as I ever saw, and amazingly thick in the ground; those in the field unattended to, were equal in size to any potatoes sown from the same potatoe, in the same ground, and as thick and large.

“ I most sincerely congratulate the public, and you in particular, on the discovery, for you have really reduced the culture of that necessary article of life, to as perfect a system, as any other branch of agriculture: you have not, Sir, like other people, (who have some trivial secret to impart to the public for pecuniary considerations) hid your secret in a napkin, or put it under a bushel; you have generously, and in a most liberal manner, given it to the public, for the benefit of your fellow-creatures, who have heretofore, through poverty, perhaps indolence, experienced the want of that most necessary article of life; for had your system of producing potatoes from the shoots, been generally adopted in this country the last spring, I am satisfied there

there would have been shoots enough (if proper care had been taken of them) to supply this year's crop of potatoes, and we should not have felt the want, to which the poor were reduced last spring. I sent some of your potatoes, by two of my tenants to the mafs-house last Sunday, which I made them dig, in order to induce the poor people to lay aside their prejudices, and adopt your system, fo much their interest to purfue. I am much furprised you did not apply to parliament for a premium; but what could they give you adequate to the difcovery?

“ I fhall make but one obfervation more on the fubject, and that is, that potatoes are the moft fruitful root we have, its fructifying quality is vifible in every cabbin you pafs by; they produce good foldiers, good feamen, good citizens, and good husbandmen; were thofe in the higher claffes of life, more accuftomed to this fructifying food, population would go on much better, and we fhould be able to fupply his majefty with troops, whenever he fhould have occafion for them. Doctor Lloyd, whofe eminence as a phyfician was very great, frequently recommended potatoes as a fupper

K

to

to those ladies, whom Providence had not blessed with children, and an heir has been often the consequence. Adieu, my dear Doctor, with best wishes to Mrs. Maunfell and all your family, your very obedient servant,

A. ELLIOTT.

The Rev. Doctor Maunfell,
Square, Limerick.

Rockford, 21st Nov. 1793.

“ REV. SIR,

“ Being desirous to outdo a neighbour in early potatoes, I procured some of the Lincolnshire kidney potatoes, which I put entire into a box, pierced on all sides with holes, and covered them with dry earth, first putting in a layer of mould, and then a layer of potatoes; when filled, I put the box on a very warm heap of manure, defended from the rain. In a few days they began to sprout, for to my astonishment, they had grown near six inches high, when I first went to view them; my intended experiment having escaped my recollection, until I saw your paragraph in a Limerick paper, on your very ingenious and
useful

useful discovery of the propagation of that
 root from the shoots. In raising the potatoes
 from the box, many of the sprouts were se-
 parated from the bulbs, being much drawn
 by the heat, which afforded me an opportuni-
 ty of attending to your hint, theoretical as I
 then esteemed it, nevertheless inclined to spe-
 culation, these sets I carefully placed in a
 drill in my garden, weak as they were then on
 the 24th of February, and at the same time,
 and in the same plot, I planted those shoots
 which remained to the potatoe, in the usual
 way of drilling with the spade and sho-
 vel. The season then proving very wet, I
 despaired of success from either, both appear-
 ing for sometime in a very unpromising state.
 But when vegetation a little more advanced,
 I perceived the sets and the shoots to vegetate
 apace. In the latter end of March, I gave
 them the first moulding, which forwarded
 them much. In the second week in April, I ad-
 ded more mould, and plainly saw the benefit
 particularly in the shoots, which were now by
 much outgrowing the plants from the potatoe,
 and which clearly convinced me, that the
 power or quantum of vegetation, does not
 exist in the size of the bulb, so much as
 in

in what is imbibed by the stem, and leaves of vegetables from the air, the shoots having by much the more luxuriant appearance, even so early as the month of May. This induced me to turn my attention more seriously to your method of the culture from the shoots, a thousand of which I procured from an hole of apple potatoes, then from four to five inches long, for the reception of which, I opened some furrows in a head land of barley ground, with a common plough, three feet asunder, in which I placed the shoots, nine inches apart, and earthed them with a garden hoe. They shortly took root, and throve very well, were moulded three times before August, in which month they were a second time hand-wed, and turned out as good a crop as any I had in the common way, though not planted until the second week in May. But to return to my first experiment, which I attended to in the mean time, keeping them earthed up like a drill of celery, full eighteen inches high of mould. I tried them the 12th of June, and found they had grown, potatoes full as large as an hen egg, and quite dry, while

while those from the potatoes were very wet, and not bigger than common crabs, nor did they produce half the number at the general digging out.

“ From the success of my experiments on your discovery of this most advantageous mode of culture, I think it my duty to inform you, how much is due to you from the public on that account, as when the predilections for old custom, (so natural to this country) are subdued, I hope to see your method of propagation of that necessary root, generally adopted, as I am convinced, the most beneficial effects will accrue from your system; a system, from whence, practice will produce many improvements.

“ I am, Rev. Sir, (from real experience) so fully satisfied of the vast utility of your method, that I cannot dismiss this subject, without again and again assuring you, how much I consider the public, and particularly the poor,
your

your debtors, for this your most seasonable,
useful, and happy discovery.

“ I have the good fortune to be,

“ Rev. Sir,

“ With great truth,

“ Your most obliged,

“ And obedient servant,

“ WILLIAM KINGSLEY.”

The Rev. Doctor Maunfell,

Square, Limerick.

Traverston, 28th Dec. 1793.

“ DEAR DOCTOR,

“ I beg leave to inform you, that I tried a
few drills from the shoots, and the size and
produce of the potatoes was very great in-
deed ; and to submit a mode, by which the
entire culture of potatoes from the shoots,
may, I am confident, be compleated by the
plough, without the labour of the spade.—
Having opened your drills with the plough
as usual, and dunged them, close back each
drill

drill with your plough, as if the cuttings of the potatoe had been previously laid in the drill, then the smallest children, with setting sticks, may stick down the shoots to any depth, and at any distance you please into the dunged drill, as you would cabbages; which is, I think, as simple and expeditious a mode of culture, as possible, and its success cannot be doubted.

“I am, dear Doctor,

“Your truly sincere

“THOMAS GOING.”

Rev. Doctor Maunsell,

Square, Limerick.

B. Crinnes, near Castle Martyr, Dec. 28, 1793.

SIR,

“In consequence of your favour to me last February, in answer to mine, requesting to know your mode of cultivating potatoes from the shoots, I tried a few drills, set them the 15th of last May, and dug them the 15th of last

last September, and I found the produce both as to size and quantity exceed my most sanguine expectations. I sent for a great many of my neighbouring farmers to be present at the setting, as also for them to see them dug; they laughed at the idea at setting, but on digging, they were convinced of the utility, and amazed at the size; they promised me to practice it next season, but are so wedded to old customs, I think they will do it; but in a very small quantity. I mean to do it on a large scale, about April next, when I shall have shoots sufficient, as I now have in a warm corner of a house, potatoes covered with sand for that purpose, and imagine they will be eatable prior to those potatoes I set last week.

I am, Dear Sir,

Your obedient,

Humble servant,

WILLIAM LUMLEY.

Rev. Doctor Maunfell,
Square, Limerick.

DR.

Castle-Island, December 29, 1793.

DR. SIR,

I am to apologize for not acknowledging the receipt of your favour with that punctuality, which its own merits, and my inclination equally demanded, but an unavoidable business intervened, and left me not an hour's respite until now.

With respect to your experiment of raising potatoes from the shoots, it is already so well established and approved, that I presume it stands in no need of support from the derivative experiments of others, and were it not that the experiment which I made varied somewhat from yours, I should not think it of consequence enough to deserve your notice. My potatoes this year had been all sown in the old method from cut pieces, called scullianes, before I thought of planting from the shoot; but my people having neglected to stir the potatoes, which were housed for store too long, I found when they were stirring them by my directions, that very long shoots

L had

had grown from them. This circumstance reminded me of your experiment, and therefore so late in the season, as the month of July last, I determined to plant a few of those shoots ; this I did in a border of a small garden, which I have at the back of my stables, but instead of planting them upright in the drills, which is your experiment, it occurred to me, that laying them down in the drills at proper intervals might answer the purpose as well, trusting to nature for directing the shoot to point itself in a proper direction in due time ; accordingly I laid them flat in the drills, at twelve inches asunder, and covered them with a small quantity of stable dung, on which I threw back the earth of the drill. When the shoots came up, they were second earthed, and promised very well ; however, unfortunately the stable gave way, and the wall of it fell upon the border, where the shoots had been planted, and destroyed them all, save one—this I dug up in due season, and found the produce to be three potatoes as large and dry as ever I could desire at my table ; they were of the early white kind, not the kidney, but rather the potatoe called the English white. From this experiment

ment, I think I may fairly infer two conclusions; the one, that so late even as the month of July, potatoes may be propagated from the shoots with success—the other, that they will most probably succeed if the shoots be stuck in the ground, or dibbled in, or even planted in the lazy bed-method, provided the ground be properly manured, and treated in the usual manner, as cut potatoes are intended to be planted. If upon future trials my second inference shall be verified, and the culture I mention come into general practice, it will extend very widely the benefit of planting the shoots, for the poor in general in this kingdom cannot command ploughs for drilling their gardens; besides much of the grounds of this kingdom are of a stubborn clayey, and moist nature, unfit for the drill husbandry. My grounds in this country are for the most part of the quality, which I have described, and I do therefore intend to plant the shoots next year in the manner which I have mentioned. I beg leave to recommend it to you to do the same, even upon a small scale, and we may mutually compare notes of the results.—Yet I must

own I foresee difficulties likely to occur, which may obstruct the introduction of your system into general practice; you have to conquer the confirmed obstinacy of the most obstinate of men, the common country farmers and people—and to introduce among them, a method and regularity of system, I may almost term contrary to their natures. Such potatoes as they intend should produce shoots for planting, must remain unstirred for that purpose, and they must have the ground prepared properly before they take off the shoots, for I doubt whether the shoots would vegetate, if they were taken from the potatoe two days before they should be planted, “*scriptus & in tergo necdum finitus.*”—You see, my good friend, how long a letter may be the result of a short experiment. If you should think my plan worthy your trial, and that the success should answer your expectations, I think it will be well worthy your publick spirit, to communicate the whole of your discoveries to the agriculture society, lately incorporated in Great Britain, which would be the means of giving them that universal publicity, that would best answer the object, which you have,

I dare

I dare say, principally in view, namely, the public good.

I remain, Dear Sir,

With unfeigned esteem and regard,

Your very obedient humble servant,

JOHN HERBERT.

Rev. Doctor Maunfell,

Square, Limerick.

Suirville, January 2, 1794.

DEAR DOCTOR,

I have read your very useful and ingenious tract on the culture of potatoes, and have in consequence, pursued the mode prescribed by it, which has exceeded by far your own calculation, as I found experimentally; having obtained from one drill planted by your method more than a triple portion of potatoes, and of a larger kind than a drill which I planted from the sculliane. I am confident
the

the public must be greatly benefited by your ingenious discovery, and that they can never repay you, but by putting in practice your wise instructions, the greatest obligation you have conferred upon them. Accept now of my tribute of thanks, and believe me to be with great regard and esteem, Dr. Sir, your faithful and obedient humble servant,

JOHN HEWETSON.

Rev. Doctor Maunfell,
Square, Limerick.

P. S. I mean to plant this year by the drill plough.

Dublin, January 13, 1794.

DEAR SIR,

I should have answered your letter of the 5th of December, but have been confined to my room for five weeks with a fit of the gout. I enclose you my gardener's experiment on the shoots of the potatoes, which appears to me to be a tolerable accurate one, except that the species of the potatoes was
not

not the same, as one was the English whites, and the other the apple; however it plainly proves how valuable the discovery is.

I am, Dr. Sir,

Your very humble servant,

D. LATOUCHE.

Rev. Doctor Maunfell,
Limerick.

Remarks on four drills planted with potatoes cut in the common way, and two drills planted with shoots which grew on potatoes laid up in a heap all winter. The above potatoes and shoots were planted by the order of the Right Honourable David Latouche, in his garden at Marley, on the 10th of April 1793, by

JOHN COOPER.

I chose a quarter of the garden for the above purpose, which had been only about five years worked as garden ground, and is naturally a poor clay-like soil, and has had very little dung. I laid a very thin coat of dung on it last March, and had it dug level—I got some potatoes which were raised from seed got out of the apple in 1791, and was
sowed

sowed in March 1792, and transplanted the beginning of May. From these, I got two different kinds of apple potatoes, which I cut in the common way; on the 10th of April I had six drills drawn three feet apart, in the above-mentioned quarter of ground; I had four of the six drills made about two inches and an half deep, in which, I planted two drills of each of the two kinds of potatoes raised from seed, which had been cut in the usual way, a few days before they were planted. The other two drills I planted with shoots, which grew on potatoes laid up in a heap all winter. These I treated, as directed by the Rev. Doctor Maunfell of Limerick, from his experiment of 1792, except, that of cutting the shoots to six inches, as very few of mine exceeded that length. However, they were all about six inches; I planted the two drills at six inches apart, one shoot from the other, and covered them with mould about one inch deep, I earthed them as they grew up, and always left two inches of the top over ground. I had them earthed three times, the first was on the 5th of August, when they were earthed about a foot high. I dug out these six drills of potatoes
about

about the 18th of November. They were planted within the same hour, in the above ground, and got the same treatment in every respect, except, that of the cut potatoes being planted deeper than the shoots; I had each kind weighed separate by Mr. Costello, Steward to the Right Hon. David Latouche, in the presence of four men, who dug them out, the drills were each 78 feet long, and the two planted with shoots; produced 17 stones weight of potatoes; two of the drills planted with cut potatoes, produced 17 stones also; but the other two drills planted with cut potatoes, produced only 12 stones weight, which I think was owing to their not being so prolific as the other kind of cut potatoes. These from the shoots were some of them very large, and some very small; but these from the cut potatoes were more of a general size, not very large, nor yet very small.

M

Biddymount,

Biddymount, January 21, 1794.

MY DEAR SIR,

Having heard you intend to publish a second treatise on the culture of potatoes from the shoots, and being convinced of the very great advantage this mode, if generally practised, must be to the nation, I am induced to lay before you, an experiment I made last spring according to your plan. In the month of April, having opened all the drills with a plough for my general crop of potatoes, I thought it a good opportunity to try what the shoots might do, by this mode of cultivation; accordingly I collected a parcel, and having cut them into lengths from four to six inches, I planted an entire drill with them, observing no other regularity in laying them down, than a little attention to their distance from each other, which in general I allowed about the same, as potatoes sets are usually planted at, so they lay in variety of directions in the drill; I then had them covered with a little dung, the drill closed with the plough, and treated in every respect as the rest of the garden. In the progress

gress of their vegetation, I observed very little difference from the others, but about the middle of October, when I had them turned out with the plough, this drill appeared to contain a much greater quantity of potatoes than any of the others.

From this mode of making the experiment it must be obvious, that there is neither that difficulty or nicety requisite, that might operate as a bar to its being generally practised, but lies within the meanest capacity.

The very astonishing advantage this plan would be of to the kingdom, if universally adopted, should recommend it to the serious attention of gentlemen, and induce them to use their influence, to diffuse its practice as much as possible, besides 'tis an improvement, not like many others ; only calculated for the affluent and great, but includes all ranks and degrees in society, affecting more particularly the laborious and industrious poor of the nation, whose principal support is the potatoe.

I trouble you with this letter, as I think your very praise-worthy zeal in this matter, entitles you to every communication, which may in the smallest degree tend to promote the practice of that plan, which you so laudably recommend to the public.

I am, my Dr. Sir,

Your's very truly and sincerely,

JOHN CROSSLY SEYMOUR.

Rev. Doctor Maunfell,

Square, Limerick,

Sallowglin, January 30, 1794.

DEAR SIR,

Having lately read in the public papers the extraordinary produce of your mode of culture from the shoots in Mr. Harte's garden, and that you intended shortly to convey to the public more information, relative to the tillage of potatoes, I cannot avoid throwing

ing

ing in my mite, that you may convey it to the public, if you think fit, as I am satisfied, the poor cottiers will be induced to follow experiments made by gentlemen, when they shall find it their interest, which they undoubtedly will, by following the directions you have laid down in your first letter to the Dublin Society, and which I have done, and found the good effects of.

I must now inform you, that I planted some drills with shoots in my garden; the produce far exceeded any idea I could form. I also at the end of my lawn, rooted up a plantation of ash, and made my steward dig the ground, and planted shoots in it. I have the pleasure to tell you, that even that tillage succeeded also, and had as great produce, as from any common tillage in the old manner of sowing from the potatoes. Had I known of your intention of writing a second treatise, I should have been more particular as to the weight and quantity, but be assured, it is the most profitable discovery that ever was made; I shall not say how much the public are indebted to you for the discovery, but certainly

I am

I am in a great degree, as I am in hopes that my tenantry will follow my example next year.

I do not know whether the following idea has ever struck you, which is, that the preparation for the sowing of potatoes is a most laborious and painful operation; it will require at least ten women, (for that branch falls to their lot) to cut potatoes into myriads of scullianes for an acre of ground; and was it not that these poor women had their hands muffled, the very flesh would be gnawed or cut to the bone; whereas in your mode of preparation, there is not more trouble in preserving the shoots, than the countryman has been at in spring to destroy them, and which you have converted by your mode into food for millions. I make no doubt but in the culture of three years, when your mode shall have received general publicity, that fifty out of every hundred will follow it. I am not fond of flattery, but this I shall affirm, that you have introduced a new species of agriculture, which promises the greatest advantages

tages to this kingdom, and which must ever reflect honour on the discoverer.

I am, Dr. Sir,

Your very obedient servant,

WILLIAM SANDES.

Rev. Doctor Maunfell,

Limerick.

P. S. I have the pleasure to tell you, that several gentlemen in the county of Kerry have tried your experiment, and it fully answered their expectations.

Limerick, November 13, 1793.

REV. SIR,

I pray you may accept my sincere thanks, for your obliging communication of raising potatoes from the shoots, a discovery, that merits the most public acknowledgments.— Upon your reasoning with me on the subject last spring, you convinced me of the certainty of its success, and I followed very exactly your directions, and have the pleasure of informing you, that I never saw potatoes in
ground

ground so thick and so large. I thought from my constant practice in trying experiments on the cultivation of seeds, roots, shoots, and plants, those twenty years past as nursery and seedsmen, that few have exceeded me in my line of profession, but I freely confess that your discovery beats every thing I ever heard of, on cultivation, and promises to be of the greatest utility to this kingdom, when it comes to be generally known, and practised; but that I fear will take some time, as the lower class of people are greatly wedded to their old system of potatoe tillage. I shall not fail to communicate the success of your experiment, to such as would wish to practice so useful a discovery. You will please to pardon the liberty I have taken in addressing this letter to you, which is the smallest tribute I can pay you, for so useful and valuable a discovery.

I am,

Rev. Sir, with very great respect,

Your very obliged humble servant,

WILLIAM FENNESSY.

The Rev. Doctor Maunfell,
Square, Limerick.

THE END.

LETTERS

TO

SAMUEL HAYES,

OF AVONDALE, ESQ.

FROM

THOMAS KING,

OF KINGSTON IN THE CO. WICKLOW, ESQ.

IN CONSEQUENCE OF HAVING READ

THE REV. DR. MAUNSELL'S TREATISE

ON

PROPAGATING POTATOES

BY PLANTING THE SPROUTS ALONE.

DUBLIN:

PRINTED BY WILLIAM SLEATER, 28, DAME-STREET,

PRINTER TO THE DUBLIN SOCIETY.



M.DCC.XCIV.

LETTERS

SAMUEL HAYES

OF ANDOVER, MASS.

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L E T T E R

SAMUEL HAYES, OF AVONDALE, ESQ.

FROM

THOMAS KING, ESQ.

OF KINGSTON IN THE CO. WICKLOW,

ON PROPAGATING

P O T A T O E S

BY PLANTING THE SPROUTS ALONE.

DEAR SIR,

I HAVE read Dr. Maunfell's treatise on potatoes with great pleasure, it proves him possessed of a good heart and understanding, and a great friend to the poor; and though there are some of his statements and calculations in which I take the liberty of differing from him, I am willing to allow him every merit. As I presume he never heard of any

other person who had planted potatoe sprouts, his experiment is, as to him, a *discovery*, as well as to the person who *first practised* that mode. You will do me the justice, however, to recollect that about twenty-two years ago, I sent you a large basket of very fine white potatoes raised from sprouts, for the purpose of shewing them to the Dublin Society, if you thought the discovery of importance.— Few years have since passed in which I have not planted more or less *sprouts*, and when my potatoe pits are opened in spring, my labourers never fail to take and plant all the strong sprouts they can get. My neighbour, Thomas Manning, followed me, and about twenty years ago planted sprouts, and at several times since.— The Rev. James Symes had long since several drills in a large field at Clonmanen planted with sprouts, and the labourers, who laughed at his folly, as they called it, could not when taking out the potatoes, distinguish the drills planted with sprouts from those planted with potatoes:— they were all remarkably good. I did one year sell potatoes at a very high price, and at the same time planted the sprouts of them.

Although

Although I highly approve of carefully preserving all the sprouts which can be collected in the sowing season, yet I doubt much whether the entire substitution of sprouts in the place of potatoe sets, can ever take place, so as to supercede the necessity of planting a considerable quantity of the latter. Doctor Maunfell himself has clearly shewn, and every man's experience proves, that when sprouts are put forth, the potatoes are considerably weakened, and that that weakness encreases in proportion as sprouts appear, until the potatoes are entirely exhausted and unfit either for food or feed. The general practice therefore is, to prevent, as much as possible, potatoes from sprouting at all, and when that cannot be done *effectually*, farmers chuse to let the sprouts remain and wither, which they will do by turning the potatoes often, shaking the mould off, and keeping them in a dry state. The withering of the sprouts, it is said, prevents or retards new shoots, whereby the potatoes are preserved in a better state for food, than if they were encouraged or suffered to put forth many sprouts.—But supposing all the sprouts of potatoes, which are brought to view during
feed

seed time, be preserved for seed, yet the quantity of good shoots, will fall *far short* of the complement necessary for a general planting, inasmuch as a potatoe, however large and full of eyes, will not, at the first sprouting, put forth more than *one or two shoots*. I have had thirty-two good sets cut from one potatoe, but the general produce of large potatoes, (from which *only* seed should be taken) is from eight to twelve sets each, whereas but *one or two* sprouts only can be obtained from each potatoe. It is to be considered also, that the poor people's sowing of potatoes, seldom commences until *May*, and continues but a short time, so that were they to plant nothing but *sprouts*, their stock of potatoes should be much larger, to produce a sufficiency of sprouts, than they generally possess, or have occasion for, at that season.

I have already mentioned, that the preservation of such shoots as can be procured in the proper season, without injuring the potatoes as food, will be a considerable saving of seed, and so far will encrease the national stock of provisions. In this point of view it
is

is doubtless a fit object of *encouragement* by the *Dublin Society*.

Sprouts are fit for planting at any time after they acquire roots sufficient to support themselves, independent of the mother potatoes, which they generally do, when about three inches long ; and as the roots encrease in number and strength, those parts of the shoots between the first set of roots and the potatoes, shrink and dry up, and, as I conceive, no more nourishment is received from the potatoe by that channel. My happening to observe this, gave me the first idea of planting sprouts.

As to the best mode of cultivation, I am decidedly of opinion that *drilling* far exceeds all others. But sprouts may be planted successfully in all the various methods that potatoes are usually planted in, but I would not advise the sprouts to be *cut in pieces*, as directed by Dr. Maunfell. It is better to plant them whole, be they ever so long, or have ever so many series of roots and joints—they may be planted at greater distances when
left

left whole—I always found the sprouts to answer when laid *horizontally*, covering them in every instance as potatoe sets are covered, except on lay ground, where the sod intended for covering ought to be *chopped* in the furrow, and thrown up with a *shovel*. I disapprove of planting potatoes on lay ground; it is the most wretched farming. The expence is enormous, the product in general small, and the land very little benefited. I need not tell you how I have succeeded with the *drill culture* of potatoes. You have frequently seen the produce weighed and can vouch for me.

If poor persons can be prevailed upon to set sprouts in drills, and have not the means of horse-hoeing; the distance, Dr. Maunsell mentions, of *two feet* between the drills, might answer very well, though I should prefer a greater distance, and I would plant the sprouts nearer to each other in the drills; but I, by no means, think it necessary, that the sprouts should be set upright. The expence and labour would be greatly encreased, if that mode was adopted in a *large plantation*.
The

The sprouts laid flat, will often send up shoots from the joints, and potatoes are frequently produced at the joints. Upon examination it will be found, that the roots put forth from the sprout, near the mother potatoe, are the chief support of the plant for a considerable time. Some few roots will issue from the joints, but not in number or strength equal to those first put out. Were I to chuse sprouts for planting, I would prefer those which had not arrived to an age to have joints. If drills can be *horse hoed*, (which ought never to be omitted if possible) three feet intervals is the best distance.

I have frequently planted potatoes, and the sprouts of potatoes, on the *same day*, and always observed the sprouts to come up about three weeks *sooner* than the potatoes; and I am confident, sprouts will produce as good, if not better crops, than potatoe sets, and more seldom fail of growing.

Dr. Maunfell recommends his mode of culture for a *second* crop. I am convinced from experience, no good farmer, who has land to
 b plough,

plough, will ever take *two* successive crops of potatoes, out of the *same* ground. But the poor man, who is often confined to a small spot, must till as he can; broken ground is most profitable for potatoes, in every mode of culture, but the poor man, if he has no broken ground, need not fear success in planting sprouts, even on stiff lay, provided the sod be *well chopped* in the furrow, and thrown up with a *shovel*.

It is mentioned by Dr. Maunfell, that potatoes raised from the apple, do not come to perfection in less than three years; I know the general opinion is so, but I have *proved the contrary*, having frequently had them in full perfection the *first* year; but then great attention is necessary. The seed should be sown in rich ground, in a small drill like tongue-grass, and the plants, when transplanted, should be frequently hoed like cabbage.

I have had no potatoes for many years, but what were originally produced from my own sowing of the apples, and I have the vanity to think, no one has finer. You may remember,

remember, that about eighteen years ago, I had at one time, one hundred and five different kinds of potatoes, from the sowing of five kinds of seed.

Dr. Maunfell says, there is no use in having the sets of potatoes cut, and let to lie any time before they are planted. I am of a different opinion, not indeed for the reason his tiller assigns, but because I am convinced, a set will not sprout, until the cut be healed, and therefore, if the cutting be performed long enough before the setting, to allow time for the cut to heal or dry, so much time will be gained by the planter, which is a great object, especially to the poor, who are late in planting. Great care should be taken, that the cut potatoes be not suffered to lie in a heap, as from the moisture which oozes after cutting, they are apt to heat, and produce *curled stalks*, and a bad crop, which are the certain consequences of *heated* potatoes.

I gladly take this opportunity of observing here, that there is not in our county, any season when the labouring man cannot get employment. We have no idea of men's go-

ing to sleep, when their potatoes are planted. The complaint here, is of a contrary nature; the spirit of improvement in this country, renders it difficult to procure labourers enough. The picture of the Munster labourers, as drawn by Dr. Maunfell, is really deplorable, and calls loudly for the hand of power, to correct and improve it. It seems, as if the gentlemen and wealthy farmers of that county, were asleep, if not dead, to the good of society, and the voice of humanity.

In consequence of my having for upwards of thirty years, been employed in making experiments on the culture of potatoes, and the mode I now pursue, being considered by a particular friend of ours *, as much more profitable, than any hitherto practised by others, I was not long since, requested by him, to give in writing, a particular account of my management; I did so to the best of my abilities, in which a minute detail of every part of the business, from the first breaking up the lay,

* Colonel Symes, of Ballyarthur, now abroad on the West India expedition, with General Grey.

lay, to the taking out the potatoes, is particularly mentioned. I enclose you a copy of the paper I sent him, be so good to read it, and if you think it can be of use to others, you may dispose of it as you please.

I am,

Dear Sir,

Your most obliged,

and faithful servant,

THOMAS KING.

Kingston, 2d Feb. 1794.

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the paper I sent him, he is good to read it,
and if you think it can be of use to others,
you may dispose of it as you please.

I am,
Dear Sir,
Your most obliged,
and faithful servant,
THOMAS KING
Kingston, 24 Feb. 1794.

THOMAS KING HAS BEEN
INFORMED THAT THE
POTATOES FROM THE
SPROUTS

SECOND LETTER

FROM

THOMAS KING, ESQ.

TO

SAMUEL HAYES, ESQ.

Describing the Mode adopted by him for several Years

ON THE CULTURE OF

Potatoes from the Sprouts.

SECOND LETTER

FROM

THOMAS KING, Esq.

TO

SAMUEL HAYES, Esq.

Describing the Mode adopted by him for several Years

ON THE CULTURE OF

Spices from the Sprouts.

SECOND LETTER

TO

SAMUEL HAYES, Esq.

FROM

THOMAS KING, Esq.

Describing the Mode adopted by him for several Years,

ON THE CULTURE OF

Potatoes by the Sprouts.

THE following is the paper I promised in my last to send you, to which I have added some general observations.

“ The land for drill potatoes, should be dry, and cleared of all impediments to the plough. The best preparatory crop, if the land be in grass, is that of lay-oats. The

c

ground

ground should be ploughed, laying the sod all one way, with a turn-wrest plough, rather deeper than the staple soil, and the oats immediately harrowed in; the crop will in general be very abundant; as soon after the oats are taken off as convenient, the stubble should be well and deeply ploughed (if with the turn-wrest plough, so much the better). Early in the ensuing spring, it should *in dry weather* be well harrowed, and then cross-ploughed, and previous to planting, should be again well harrowed, and laid as flat as possible.

If the land inclines one way, much more than another, the drills should run up and down hill, otherwise they cannot be effectually moulded on both sides, by the hoe-plough; but if the ground be flat or not inclining much, then the drill should run North and South. The drills should be three feet asunder. Having determined that side of the field where it is intended to begin, measure nine yards from the line of the first intended drill, and on the ninth yard, let a row of car-loads of dung be laid from one end to the other, allowing a sufficient head-land at

at each end, for the plough and horses to turn upon (which head-lands, after the horse-hoeing is finished, may be sown with turnips or any other crop, suitable to the season.) When the first load of dung is laid down, let the next horse be drawn up, until his head reaches the former load, and in like manner to the end of the row; such a row is a good dressing for the potatoes, and a succeeding crop of wheat. If the dung be very short, a greater number of loads may be necessary; it is better however, to have *too little*, than *too much* dung laid out: in the former case, a few loads may be occasionally added; in the latter, there is great waste of time and labour in removing the dung out of the way, and if there be too much in the first row, or laid too close, it is probable the whole dung of the field must be removed. It is supposed that two Irish car-loads contain little more than an English one horse cart-load. The quantity of dung must, after all, be regulated by the farmer's discretion and stock. If he has much potatoe ground and little dung, he may manure lightly, and so *vice versa*, but for a very productive crop, there ought to be at least *some* dung, in every part of the drill.

When the dung is all out and seed prepared, six men and as many boys, should be placed along the drill at equal distances. The drills may be made by a good swing plough, going and returning in the same furrow, in a line perfectly straight, and as deep as the soil will permit, observing always that if the ground hangs one way, the last stroke in opening the drill, should throw the mould out *from* the highest side of the land, which clears the drill much better, than when the mould is by the last stroke thrown against the hill, and much depends upon the drill being very clean. Immediately upon the plough's passing the first boy, in completing the drill, he should begin to seed, by dropping sets, not farther than five inches asunder in the drills, which (as the potatoes have great room to spread side ways) has been found by experience to be the best distance. As the drill is seeded, each man covers his portion of the seed with dung, from the first row. The ploughman and driver should both be expert in their department. If after the first drill is made, the driver walks in, making the second drill quite close to the first, and keeps his horses close up to his shoulder, the drills will

will be exactly three feet afunder. If the ploughman and driver be not expert, then it will be necessary to fet up marks at due distances. By the time the first drill is feeded and dunged, the plough will have opened another, which will be feeded and dunged as the former, and by the time the plough comes to the ninth drill, the first row of dung will, or ought to be exhausted.

It is not necessary to cover the drills with *mould* until the entire sowing is finished. A light harrow, somewhat raised by being bushed so as to prevent the harrow-pins from reaching the dung, which it would otherwise drag out of the drills, drawn across the drills, will effectually cover them, much better indeed, than the usual method of covering with the plough, and then harrowing to level them; or the drills may be covered by a board edge-ways, four inches deep, and four feet long, with a handle like a rake's tail, with which a man may with great ease and expedition, draw the mould over the drill: covering with the plough leaves the ground uneven; the potatoes in consequence come up *not in regular rows*, but sometimes on one, and some-

sometimes on the other side of the ridge formed by the plough—a great inconvenience in horse-hoeing, besides the expence. But the whole surface being as directed laid quite level, the shoots will form a perfect row, as if transplanted by a line. *Horse-hoeing* cannot be performed effectually, unless the rows are even.

Experience proves that the best seed is to be had from the largest potatoes of every kind. Small potatoes have nearly as many eyes as large ones of the same species.—A good set, part of a large potatoe, all other things equal, will naturally produce a stronger, and better plant, than a part of a small potatoe : thirty-two good sets, have been taken from one large potatoe, and two-thirds of the potatoe left. Each eye should be cut out by *two* cuts of a sharp knife,—which leaves the seed stronger than is generally done by the common way of cutting, or rather slicing off the set with one cut of the knife ; besides many more sets will be obtained.—If the potatoes are large, there will remain after taking the seed, *ten or twelve stones*

stones out of twenty, which may be profitably used for *pigs, cows, or horses*. No set should be cut which has not a very apparent eye in it; nor is the stalk end of a potatoe good for feed.

If the seed after cutting should be suffered to lie in a heap, *it will heat*, and if not totally destroy, at least weaken it, so as to produce *curled stalks*, and a poor crop. Curled stalks will proceed from any other cause which weakens the vegetative power before sowing, or when the plant is in a state of growing. The principal causes are, laying potatoes together in too large quantities in a wet or damp state; repeated sprouting before planting; and by worms wounding the young shoots, by which last means much mischief has been done.

When the potatoes are up so as distinctly to see the entire drill, the mould should be turned from the plants by a light sowing plough with a clavis, at first from one side of the drill only, and in three or four days, when that mould is returned, then from the
other

other side. In this first operation the plough should run as close to the plants as possible: if both sides were stripped at the same time, and unfavourable weather happen, the plants would be materially injured.

Previous to the second horse-hoeing, which ought to be done in about a week from the former, it would be adviseable to use the Cultivator, Nidgetor Shim, as it is called in different places. This instrument run between the drills cuts all weeds in the intervals, and raises mould for the next horse-hoeing. If any weeds should appear in the row, they should be carefully picked out by hand.

The horse-hoeing, by which is meant, the throwing up mould out of the intervals to the plants in the drill, should be performed at least four times, each time going and returning in the same interval, that is, once from and three times to the plants; but the oftener they are horse-hoed the better, unless the planting is very late; then horse-hoeing keeps the potatoes too long in a growing state, and there is not then time for them to ripen fully.

fully. Potatoes have been horse-hoed when in full blossom without receiving any injury.

If the horse-hoeing be performed with one beast, it should be a very strong one; if two are used, they should both draw from the same swingle-tree; the fore horse's traces being proportionably long and kept from falling at the turn by a strap over the hinder horse's neck. The work if well performed, and with a moderate degree of expedition, is too heavy for one horse—A plough with a double mould board should be used for finishing, it should be very narrow in the sole, the mould boards high, and at upper part as wide behind as the interval, so as to press the mould home to the stems of the plants on both sides at the same time. Near two Irish acres may be planted in a day by one plough and the number of men and boys beforementioned. A ploughman and driver may horse-hoe an Irish acre in a day. The intervals when finished should resemble a celery bed, deep at least as the staple mould and neatly cleaned up on both sides. A plantation of potatoes thus managed may reasonably be expected to produce 160
d barrels

barrels of 20 stone to the barrel; a square perch has frequently produced 25 stones, which is 200 barrels an acre, and this astonishing crop is the best preparation for wheat, which never fails, being a profitable one, besides highly improving the soil afterwards.

After a great variety of experiments to take out potatoes, the best method I have found, and I have tried many ways, is that which follows:

If the drills be lower at one end of the field than the other, which in this country is generally the case, let as much be dug in the common way with the spade from the lower ends of the drills, as will give room to a plough and pair of horses, yoked in the common manner, to return, leaving men and boys between the plough and drills; two or three yards will be sufficient, but the ends of the drills should be brought even, that the plough going across them, may take an equal proportion off each drill. Six men placed at equal distances, each having a boy or girl to attend with a basket, will be sufficient to keep a plough constantly going. The potatoe
tops

tops should be pulled up, and with such potatoes as happen to be drawn up by them, gathered and carried off before the plough begins. Let the plough, crossing the ends of the drills, cut off a portion, as much as is turned in common ploughing; the men with their tools (three-pronged forks are best) then throw the part cut off clean out from the unploughed part, pulverise the soil, and cast out the potatoes for the pickers, who are to carry them off to the carts. The plough having made one cut, returns empty behind the men very expeditiously, and enters upon another cut, just at the time the first man has his ground cleared, and so round and round until the whole is finished, by which means these six men are kept constantly busy, and with the plough do double the work which could be accomplished any other way, besides the advantage of taking the potatoes out without cut or bruise, of leaving none behind, and of mixing the manure with the soil most effectually. If the potatoes be in very great abundance, an additional man will be necessary. Different kinds of potatoes in the same plantation may without difficulty be separated. Carts should attend to take away

the potatoes as they are gathered. Very tolerable crops of potatoes have been obtained by the drill culture without dung if the soil be moderately limed.

The quantity of dung necessary for an Irish acre of drilled potatoes is about one hundred car loads, and five barrels of potatoes for seed, of which at least, *one third* of the weight may be saved by cutting out the eyes as before directed. It takes to plant an acre by the spade, in ridges, *four hundred* loads of dung, and *thirteen* barrels of seed.

The whole expence of an acre of drilled potatoes, comes under five guineas; the expence of an acre planted in the common ridge way, on lay amounts to fourteen pounds.

The land is more improved by a drilled crop, with one hundred loads of dung, than by four hundred in the ridge-way. Three drills are equal in produce to the best ridge, and generally much better. Drilled potatoes are much better food. I once sold the produce of an acre of potatoes, for upwards of *fifty-two* pounds.

I believe

I believe I may venture to say, I have improved the drill-culture of potatoes, in several instances. By repeated trials, I found the proper quantity and due distance dung should be laid down at: By drawing out the dung before any drills are made, contrary to the usual practice, suffering nothing to touch the drills when opened, until they are seeded and dunged, and then covering them by cross-harrowing. Every person who has seen my method of taking out potatoes, highly approves of it.

The common method, of depending entirely upon ploughing along the drills, has been proved by me to be ineffectual, besides a great loss of time, many potatoes are thereby left buried, to the great injury of the future crop. The labourers first at one end, and then at the other end, wait for the plough, and the plough as often waits for the men; sometimes too much employment for the men, and sometimes too little; so that I am convinced, the ploughing out length-wise of the drills, is of all modes the worst, and ploughing cross-wise as before described the best. More than one half, and by much the weightiest part of the labourers

labourers work, is performed by the plough in my way, that is, the act of digging and throwing out the spit; the lighter part, that of searching for, and throwing out of the potatoes, remains only for the men, who though they are always busy, they are not over-worked.

I have been informed, by a gentleman from near Lismore, in the county of Waterford, that the manner of preserving potatoes there, which is done in a masterly way, is to keep them on hurdles, raised high enough off the ground, to give room for the mould, which falls from the potatoes in turning, which is done frequently, and also leave a free passage to the air under them. I have not yet tried this method, but I have several times seen potatoes from that country, late in summer plump and smooth, perfectly clean and dry without any appearance of their ever having sprouted.

I am, dear Sir,

Your most faithful,

and obliged servant,

THOMAS KING.

Kingston, 4th Feb. 1794.

T H E E N D.

Maunsell, William

Letters to the Right Honourable and Honourable The Dublin Society, on the
culture of the potatoes from the shoots

Dublin 1794

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